REMARKS

The following remarks and information are for entry and consideration in the above-identified application.

REQUIREMENT FOR DRAWINGS-TRAVERSED

Item 11 on the Office Action Summary indicates that the "proposed drawing correction" filed 13 January 2003 is approved by the Examiner, and requires "corrected" drawings in response to the 27 March 2003 Action. Traverse is appropriate. No proposed drawing correction was filed 13 January 2003. As indicated in both the Amendment and the Letter to the Official Draftsperson filed 13 January 2003, sixteen (16) sheets of **FORMAL** drawings were submitted, including Figure 2 with corrections as proposed in the submission of 9 June 2000 and approved by the Examiner. Therefore, Applicant respectfully traverses the requirement for any **further** submission of any figure in the present application, and requests acknowledgment of the formal drawings filed 13 January 2003.

PENDING CLAIMS

Claims 1-11 were pending in the application at the time of the Office Action, under consideration and subject to examination in the Office Action. Unrelated to any prior art rejection, appropriate claims have been amended to adjust a clarity of Applicant's claimed invention. The amendments to the claims are unrelated to any prior art or scope adjustment, and are simply clarified claims in which Applicant is presently interested. At entry of this paper, Claims 1-11 remain pending for further consideration and examination in the application.

REJECTIONS UNDER 35 USC §103

The 35 USC §103 rejections of Claims 1-11 as being unpatentable based upon combinations of Aloni et al. (USP 6,360,005), Steffan et al. (USP 5,999,003), Nara et al. (USP 6,421,122) and Tanaka (USP 5,995,087) are respectfully traversed based upon the following.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated herein by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

Applicant's disclosed and claimed invention is directed to inspecting arrangements which allow easy visual classification of semiconductor manufacturing defects by a user viewing a display screen. The display screen has an <u>unsorted area</u> in which <u>images</u> of unclassified defects are contained, and further has <u>a number of classification areas</u> into which the unclassified defects can be manually moved by the user. For example, a defect which is mainly white in color may be pointed to, selected, and drag-and-dropped into a "mainly white" classification area, by a user viewing the display screen and using a mouse. Similarly, a defect which is mainly black in color may be pointed to, selected, and drag-and-dropped into a "mainly black" classification area.

Since visual imagery is used in user-designating of the visual defects to the visual defect classifications (as opposed to user keyboarding of data classification), Applicant's arrangements are quick, easy and accurate.

<u>Another feature</u> of Applicant's disclosed and claimed invention is that moved/classified <u>defect images are continued to be displayed</u> within the classification areas. The advantage of this is that the boring/monotonous nature of defect classification work may result in momentary lapses in classifer attention such that a defect may get erroneously moved to a wrong classification area. <u>By continuing to display defect images even after classifying, a classifier can visually recheck his/her work and correct any erroneous classifications</u>. For example, the visual image of a "mainly white" defect erroneously classified into a "mainly black" defect area would be easily detected upon rechecking, and the white defect could be drag-and-dropped into the correct "mainly white" classification area.

In terms of claim language, independent Claim 1, for example, (in part) claims an inspecting system including display means having a screen with a <u>first area</u> for displaying a plurality of said detected images stored in said storage means and a <u>plurality of second areas</u> for <u>classifying and displaying</u> said detected images according to features of said detected images; and means for moving said plurality of detected images on said screen from said first area to selected second areas to classify and display said detected images in said second areas.

Turning now to rebuttal of the applied art, Aloni *et al.* likewise relates to a defect detection system. At minimum, Aloni does not disclose displaying a plurality of classified defect images in second display areas, and also, Aloni does not disclose classifying the images by moving them from the first area to selected second areas.

Steffan et al., as a secondary reference, relates to a method to accurately classify defects on a semiconductor wafer. A scanning tool detect defects and

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assigns values to parameters that are characteristic for that defect. The values of the characteristic parameters represent a thumbprint of each defect, and the defects are placed into "bins" according to such thumbprint. Steffan et al., like Aloni et al., does not disclose displaying a plurality of classified defect images in second display areas, i.e., at best, Steffan et al. displays numerical values, not defect images.

In short, in view of the fact that neither of the Aloni *et al.* or Steffan et al. references (alone or in combination) discloses or suggests displaying a plurality of classified defect images in second display areas, or moving them from the first area to selected second areas, it is respectfully submitted that no Aloni *et al.*/Steffan et al. combination could have resulted in or suggested Applicant's disclosed and claimed invention.

Turning finally to the third cited reference, Nara *et al.* appears to have been cited for disclosing an arrangement for a method of manufacturing. However, it is respectfully submitted that Nara *et al.* does not cure the deficiencies mentioned above with respect to the primary and secondary Aloni *et al.*/Steffan et al. references. Accordingly, it is respectfully submitted that no Aloni *et al.*/Steffan et al./Nara combination could have resulted in or suggested Applicant's disclosed and claimed invention.

In addition to the foregoing, the following additional remarks from Applicant's foreign representative are also submitted in support of traversal of the rejection and patentability of Applicant's claims.

The feature of our invention is as follows:

System has:

1) the 1ST screen which displays the defective picture before a classification;

2) the 2ND screen which displays a defective picture on a screen per every classification category; and

3) the drag-and-drop function with which a user can drag a defective picture on the 1ST screen and further drop on the 2ND screen <u>while the classified defective picture on the 2ND screen is displayed</u>.

Defects are various forms, so user's criteria of the classification is apt to change subtly while users classify them. Therefore, a user always should confirm the correctness of his criterion. If the classified defective picture on the 2ND screen is not displayed, the user cannot confirm it.

According to the present invention, a user can classify defects while the classified defective picture on the 2ND screen is displayed. Therefore, the user can classify the defects and confirm the correctness of their criterion at the same time.

The applied art appears to disclose a 2ND screen which displays <u>file names</u> of a defect moved from the 1ST screen, but does not disclose the 2ND screen which displays <u>a defective picture</u> on the 2ND screen. Therefore, a user cannot classify defects, and cannot confirm the correctness of his criterion at the same time.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a §103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such §103 rejection, and express written allowance of all of the §103 rejected claims, are respectfully requested.

REFERENCE ANTEDATEABLE

Applicant respectfully notes that an effective filing date (29 November 1999) of the Nara *et al.* reference falls between the present application's U.S. filing date (01 December 1999) and the present application's foreign priority date (01 December 1998), and accordingly, such reference can be removed as valid prior art by the filing of an English language translation of Applicant's foreign priority document(s) together with a statement that the translation of the certified copy is accurate. <u>Applicant respectfully reserves the right to file such certified English translation in order to remove such reference as valid prior art.</u> The Examiner is invited to telephone the undersigned at the local Washington, D.C. area telephone 703-312-6600, to request such certified copy in the event that filing of the same would move the application to allowance.

Based upon the foregoing, reconsideration and withdrawal of such rejections are respectfully requested. The above statements, and/or the filing of any English translation, should not be taken as an indication or admission that the art is substantively relevant, but is merely use of a procedural approach to preclude art.

INDICATION OF CHANGES MADE

Amendments made herein to the application are shown in the attached "Appendix A-Marked Version" by underlining and brackets to indicate additions and deletions, respectively.
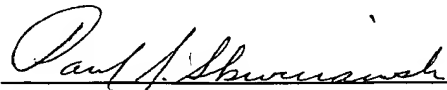
EXAMINER INVITED TO CALL

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703-312-6600, to discuss an Examiner's Amendment or other suggested actions for accelerating prosecution and moving the present application to allowance.

CONCLUSION

Applicant respectfully submits that the present application is now in condition for allowance, and an early Notice of Allowance to that effect is respectfully requested.

This Amendment is being filed within the shortened statutory period for response set by the Office Action mailed 27 March 2003, and therefore, no Petition for extension of time or fee is required. To whatever other extent is actually appropriate and necessary, Applicant petitions for an extension of time under §1.136. Please charge any shortage in any fees due in connection with this application to ATS&K Deposit Account No. 01-2135 (Order No. 501.37892X00).

Respectfully submitted,

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ATTACHMENT:
Appendix A-Marked Version

APPENDIX A-MARKED VERSION

IN THE CLAIMS:

1. (Thrice amended) An inspecting system comprising: an analyzing unit, said analyzing unit including an image detection device for producing a plurality of images of a workpiece; storage means for storing detected images produced by said image detection device; display means having a screen with a first area for displaying a plurality of said detected images stored in said storage means and a plurality of second areas for classifying <u>and displaying</u> said detected images according to features of said detected images; and means for moving said plurality of detected images on said screen from said first area to selected second areas to classify <u>and display</u> said detected images in said second areas.

2. (Thrice amended) An analyzing unit comprising: storage means for storing a plurality of images; display means having a screen with a first area for displaying images stored in said storage means and a plurality of second areas for classifying <u>and displaying</u> said images according to features of said images; and means for moving ones of said plurality of images on said screen from said first area to selected second areas to classify <u>and display</u> said plurality of images in said second areas.

3. (Thrice amended) A method of manufacturing an electronic device, wherein use is made of a manufacturing apparatus for processing a workpiece to form an electronic device, an inspecting apparatus for inspecting the workpiece

processed by said manufacturing apparatus, an analyzing unit including an image detection device which is capable of producing an image of said workpiece, and a storage means for storing images of workpieces detected by said image detection device, the method comprising: displaying detected images stored in said storage means on a first area of a screen, the screen having a plurality of second areas for classifying and displaying said detected images according to features of said detected images; moving ones of said detected images on said screen from said first area to selected second areas to classify and display said detected images in said second areas; providing information to said analyzing unit concerning images in said second areas of said screen; and controlling the production line having said manufacturing apparatus arranged thereon using information obtained from said analyzing unit.

4. (Amended) An inspecting system comprising: an analyzing unit, said analyzing unit including an image detection device to produce images of semiconductor manufacturing defects for a workpiece; a display with a sorting display area in which to display ones of said images with unclassified semiconductor manufacturing defects, and a plurality of defect-classification display areas into which each image of said images may be classified and displayed according to visual manufacturing defect features contained in the image; and a user-manipulated moving unit to move a subject image from said sorting display area to a selected one of said defect-classification display areas, to classify and display said subject image into the selected one of said defect-classification display areas.

5. (Unamended) An inspecting system as claimed in claim 4, wherein the user-manipulated moving unit includes a user-manipulated pointing device to point to, select and drag-and-drop said subject image from said sorting display area into the selected one of said defect-classification display areas.

6. (Unamended) An inspecting system as claimed in claim 5, wherein said user-manipulated pointing device is a mouse.

7. (Unamended) An inspecting system as claimed in claim 4, comprising a memory to store predetermined information for at least ones of said images including defect-classification information, and an adjuster unit to adjust said defect-classification information for said subject image to match a defect classification of the selected one of said defect-classification display areas to which said subject image is moved.

8. (Amended) An inspecting method, comprising: using an image detection device to produce images of semiconductor manufacturing defects for a workpiece; displaying images of unclassified semiconductor manufacturing defects within a sorting display area of a display, and displaying a plurality of defect-classification display areas into which each image of said images may be classified and displayed according to visual manufacturing defect features contained in the image; and user-manipulated moving of a subject image from said sorting display area to a selected one of said defect-classification display areas, to classify and display each said subject image into the selected one of said defect-classification display areas.

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9. (Unamended) An inspecting method as claimed in claim 8, wherein said user-manipulated moving is effected with a user-manipulated pointing device to point to, select and drag-and-drop said subject image from said sorting display area into the selected one of said defect-classification display areas.

10. (Unamended) An inspecting method as claimed in claim 9, wherein said user-manipulated pointing device is a mouse.

11. (Unamended) An inspecting method as claimed in claim 8, comprising storing predetermined information for at least ones of said images including defect-classification information in a memory, and adjusting said defect-classification information for said subject image to match a defect classification of the selected one of said defect-classification display areas to which said subject image is moved.